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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XA959

Taking and Importing Marine Mammals; U.S. Navy's Atlantic Fleet Active Sonar Training

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of issuance of a Letter of Authorization

SUMMARY: In accordance with the Marine Mammal Protection Act (MMPA), as amended, and implementing regulations, notice is hereby given that NMFS has issued a letter of authorization (LOA) to the U.S. Navy (Navy) to take marine mammals incidental to Navy training, maintenance, and research, development, testing, and evaluation (RDT&E) activities to be conducted within the Atlantic Fleet Active Sonar Training (AFAST) Study Area for the period of January 22, 2012, through January 22, 2014.

DATES: This authorization is effective from January 22, 2012, through January 22, 2014.

ADDRESSES: Electronic copies of the LOA and supporting documentation may be obtained by writing to P. Michael Payne, Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring, MD 20910, or by telephoning one of the contacts listed here.

FOR FURTHER INFORMATION CONTACT: Jolie Harrison or Brian D. Hopper, Office of Protected Resources, NMFS, (301)427-8401.

SUPPLEMENTARY INFORMATION:

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1361 et seq.) directs NMFS to allow, upon request, the incidental taking of marine mammals by U.S. citizens who engage in a specified activity

(other than commercial fishing), if certain findings are made by NMFS and regulations are issued. Under the MMPA, the term "take" means to harass, hunt, capture, or kill or to attempt to harass, hunt, capture, or kill marine mammals.

Regulations governing the taking of marine mammals by the Navy incidental to AFAST training, maintenance, and RDT&E became effective on January 22, 2009 (74 FR 4844, January 27, 2009), and remain in effect through January 22, 2014. The AFAST study area extends east from the Atlantic Coast of the U.S. to 45° W. long. and south from the Atlantic and Gulf of Mexico Coasts to approximately 23° N. lat., but not encompassing the Bahamas (see Figure 1-1 in the Navy's Application). For detailed information on this action, please refer to the January 2009 final rule. These regulations include mitigation, monitoring, and reporting requirements and establish a framework to authorize incidental take through the issuance of LOAs.

#### Summary of Request

On August 31, 2011, NMFS received a request from the Navy for a renewal of an LOA issued on January 22, 2011, for the taking of marine mammals incidental to training and research activities conducted within the AFAST Study Area under regulations issued on January 22, 2009 (74 FR 4844, January 27, 2009). The Navy has complied with the measures required in 50 CFR 216.244 and 216.245, as well as the associated 2011 LOA, and submitted the reports and other documentation required in the final rule and the 2011 LOA.

#### Summary of Activity under the 2011 LOA

As described in the Navy's exercise reports (both classified and unclassified), in 2011, the training activities conducted by the Navy were within the scope and amounts authorized by the 2011 LOA and the levels of take remain within the scope and amounts contemplated by the final rule. The Navy conducted seven major anti-submarine warfare strike group training

exercises in 2011, including one Integrated Anti-Submarine Warfare Course (IAC II), two Joint Task Force Exercises (JTFEX), two Composite Training Unit Exercises (COMPTUEX) with IAC IIs, and two Southeastern Anti-Submarine Warfare Integrated Training Initiative exercises (SEASWITI).

#### Planned Activities and Estimated Take for 2012 and 2013

In 2012 and 2013, the Navy expects to conduct the same type and amount of training identified in the 2011 LOA. Therefore, for 2012 and 2013, NMFS authorizes the same amount of take that was authorized in 2011.

#### Summary of Monitoring, Reporting, and Other Requirements Under the 2011 LOA

##### Annual Exercise Reports

The Navy submitted their classified and unclassified 2011 exercise reports within the required timeframes and the unclassified report is posted on NMFS' website:

<http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. NMFS has reviewed both reports and they contain the information required by the 2011 LOA. The reports indicate the amounts of different types of training that occurred from August 2, 2010, through August 1, 2011. As mentioned above, the Navy conducted seven major anti-submarine warfare training exercises addressed in the rule (the rule analyzed the likely impacts from 39 coordinated unit level training exercises and seven strike group training exercises).

The reports also list specific information gathered when marine mammals were detected by Navy watchstanders, such as how far an animal was from the vessel, whether sonar was in use, and whether it was powered or shut down. This information indicates that the Navy implemented the safety zone mitigation measures as required. No instances of obvious behavioral disturbance were reported by the Navy watchstanders in their 153 marine mammal

sightings totaling 693 animals. Furthermore, safety zones were adhered to, and vessels and aircraft applied mitigation measures when marine mammals were observed within the requisite zones. To summarize, there were a total of 5 sightings of 24 marine mammals for all AFAST Major Training Exercises for reporting (MTERs) at ranges less than 1,000 yards (914 m) during which mid-frequency active sonar (MFAS) was in use. Of these 5 total MTER MFAS sightings, there were 4 sightings of 23 dolphins, 0 sightings of whales, 0 sightings of pinnipeds and 1 sighting of 1 sea turtle. There were a total of 4 mitigation events triggered by these sightings, which resulted in two sonar power downs (range to animal < 1,000 yards (914 m)) and two shut down (range to animal < 200 yards (183 m)). During two of these mitigation events sonar was unnecessarily shut down, once when the observed range of a whale was in excess of 1,000 yards (914 m), and once due to passively receiving mammal vocalizations where the range to the animal could not be determined.

### 2011 Monitoring

The Navy conducted the monitoring required by the 2011 LOA and described in the Monitoring Plan, which included aerial and vessel surveys of sonar and exercises by dedicated MMOs, as well as passive acoustic monitoring utilizing high frequency acoustic recording packages (HARPs) and pop-up buoys, and marine mammal tagging, tracking, and biopsy sampling. The Navy submitted their 2011 Monitoring Report, which is posted on NMFS' website (<http://www.nmfs.noaa.gov/pr/permits/incidental.htm>), within the required timeframe. The Navy included a summary of their 2011 monitoring effort and results (beginning on page 9 of the monitoring report) and the specific reports for each individual effort are presented in the appendices. Navy-funded marine mammal monitoring accomplishments within the AFAST study area occurred from August 2, 2010 to August 1, 2011.

## Visual Surveys

The majority of monitoring effort for the reporting period was conducted in two locations, Onslow Bay and the Jacksonville (JAX) Operating Area (OPAREA), with an extension of survey effort off Cape Hatteras. These locations serve as the primary study areas for longitudinal baseline monitoring efforts and are also the primary locations for coordinated Anti-Submarine Warfare (ASW) exercise monitoring events. These monitoring efforts and their findings, if available, will be discussed in greater detail below.

The baseline monitoring program consists of year-round multi-disciplinary monitoring through the use of shipboard and aerial visual surveys (24 days each annually), photo identification studies, biopsy sampling, and passive acoustic monitoring. Surveys are conducted year-round using established track lines and standard distance sampling techniques. During the reporting period, aerial surveys were planned monthly in both Onslow Bay and JAX, and monthly surveys were initiated off of Cape Hatteras. In Onslow Bay, aerial surveys were conducted on 13 days between August 2010 and April 2011, and aerial observers reported sightings of five identifiable species of marine mammals. In JAX, aerial surveys were conducted on 27 days during the reporting period, and aerial observers reported sightings of seven identifiable species of marine mammals. Aerial survey effort was shifted from Onslow Bay to Cape Hatteras in May 2011. At the Cape Hatteras, aerial surveys were conducted on 6 days between May 2011 and July 2011, and aerial observers reported 39 sightings of nine identifiable species of marine mammals.

Vessel surveys were conducted in both Onslow Bay and JAX during the reporting periods. Vessel-based surveys were also initiated off of Cape Hatteras in July 2011. Vessel-based observers in Onslow Bay reported sightings of two identifiable species of marine

mammals. Over 1,300 digital images were taken for species identification and individual recognition. Vessel surveys in JAX reported sightings of two identifiable species of marine mammals. Approximately 1,260 digital images were taken for the purposes of species identification and individual recognition. Vessel surveys off Cape Hatteras reported sightings of seven identifiable species of marine mammals. Approximately 5,700 digital images were taken for the purposes of species identification and individual recognition.

#### 2011 Behavioral Response Study and Biopsy Sampling

In conjunction with the vessel surveys off Cape Hatteras, researchers from Duke University and Woods Hole Oceanographic Institution conducted two controlled exposure experimental playbacks on pilot whales on June 4 and June 7, 2011 as part of an ongoing behavioral response study. During the study, researchers conducted controlled exposure experimental playbacks with six pilot whales along the continental shelf break off Cape Hatteras. Each whale was equipped with a DTAG for recording data. The DTAG is a small, lightweight tag that is placed on a whale using a carbon-fiber pole and attaches to the animal via four silicon suction cups. The DTAG is equipped with a pressure sensor, three-axis magnetometer and accelerometers that measure depth, heading, pitch, and roll, at a rate of five times per second. The tag contains two hydrophones that record sound and a VHF antenna that allows radio tracking of animals while they are at the surface and facilitates re-location of the tag upon release from the animal. Data are archived on the tag during deployment and later downloaded for calibration and analysis. In general, the duration of tag deployments vary and tags can either be released by a programmed release mechanism or by the animal's actions that result in shedding the device (i.e., breaching, coming into physical contact with other animals, etc.). For this study, the DTAG was programmed to release after a 4 hour period.

The 4-hour experimental periods consisted of: a 1-hour pre-exposure period; a 1-hour experimental or control period; a second 1-hour experimental or control period; and a 1-hour post-exposure period. During the entire 4-hours, detailed, standardized behavioral observations of the focal (tagged) whale and its group were collected from one of the small vessels using a 5-minute point sampling protocol. During the experimental periods, the R/V Volute repeatedly approached the tagged whale with the Simrad EK60 scientific echo sounder turned on. The Volute made the same series of approaches during the control period, but with the echo sounder turned off. The choice of order of the control and experimental treatments was randomized for each whale. Five additional 4-hour focal follows on pilot whales were conducted without the echo sounder or control treatments. Data from these tagging efforts will be analyzed in Matlab to generate descriptive metrics for the diving and acoustic behavior of each whale. These include time-depth profiles for the duration of the tag deployment.

In addition, over the duration of the entire field project in the Cape Hatteras survey area, the research team was able to collect 23 biopsy samples from bottlenose dolphins (13), Atlantic spotted dolphins (6), and short-finned pilot whales (4). There was one more skin sample from a short-finned pilot whale that was obtained from the suction cup of a DTAG. Researchers focus on these species to address the following: (1) differentiating two forms of bottlenose dolphins (to date, all samples have been collected from the pelagic white-peduncle form); (2) examining the taxonomic identity of the small-bodied, pelagic form of Atlantic spotted dolphins; and (3) determining the gender of tagged short-finned pilot whales. Each tissue sample was sub-sampled and a reference sample supplied to the NMFS Southeast Fisheries Science Center's Marine Mammal Molecular Genetics Laboratory in Lafayette, Louisiana.

Passive Acoustic Monitoring and Acoustic Analysis

Two passive acoustic systems were used in conjunction with the AFAST monitoring projects in Onslow Bay and JAX – a multi-element towed array used during vessel surveys and bottom-mounted high-frequency acoustic recorder packages (HARPs). Passive acoustic monitoring was not conducted off Cape Hatteras during the reporting period (August 2, 2010 through August 1, 2011). The towed array was deployed on one day of surveys during August 2010 in Onslow Bay. A total of three acoustic detections were made, one of which was identified to species. Two HARPs were deployed for over 10 months in Onslow Bay during the reporting period. In JAX, the towed array was deployed on one day of surveys during October 2010. A total of three acoustic detections were made, one of which was identified to species. Four HARP deployments were made in JAX during the reporting period. Very large datasets were collected and a thorough analysis of all acoustic data is currently underway.

Since the 2010 AFAST Annual Report, data analyses have been underway on PAM data collected in Onslow Bay and JAX. In Onslow Bay, marine mammal vocalization data collected from the towed-array during vessel-based surveys were analyzed to identify species. For whistles, 624 whistles from four species and 48 sightings were analyzed using Classification and Regression Tree (CART) analysis. Clicks from five species recorded in Onslow Bay and off Cape Hatteras were analyzed following methods similar to Soldevilla et al. (2008) to identify the species to which the clicks belong. Distinct clicks were only found for Risso's dolphins.

Coordinated ASW exercise monitoring studies are one of the primary components being used to address specific monitoring questions presented in the AFAST monitoring plan and LOA. Both passive acoustic and visual monitoring methods have been employed to address before/after (aerial surveys) and before/during/after (passive acoustics) monitoring requirements. During this reporting period, vessel-based monitoring that included towed passive acoustic array

was conducted during December 3-5, 2010 in conjunction with an ASW exercise in the JAX OPAREA. Thirty acoustic detections of cetaceans were collected during nearly 27 hours of survey effort. Thirteen detections were classified as sperm whales; five detections were classified as sperm whales and delphinids (vocalizing simultaneously); one detection was classified as sperm whales and possible beaked whales; and 11 detections were classified as delphinids. During the previous reporting period, two focused ASW exercise passive acoustic monitoring efforts were conducted in the JAX OPAREA, each included the deployment of 9 pop-up buoys arranged in an array configuration. The goal was to establish intensive short-term (20-30 day) passive acoustic monitoring before, during, and after specific ASW exercises. Analysis of data from both deployments is still in progress.

Deployment of nine pop-up units was planned and attempted in December 2010 to coincide with an ASW training exercise in the JAX OPAREA; however, weather conditions and safety concerns prevented the deployment of the devices.

In September 2011, the Navy deployed 12 JASCO Autonomous Multi-channel Acoustic Recorders (AMARs) sampling at 96 kHz for approximately 30 days in the JAX OPAREA. The AMARs were deployed approximately 10 days prior to the planned 5-day ASW exercise and remained active for approximately 10 days following the exercise. The goal of this monitoring effort is to establish short-term (20-30 days) PAM before, during, and after a specific ASW exercise. Analysis of the collected data will be conducted once recovery has been completed.

Aerial surveys were coordinated before and after two ASW training events during the reporting period. Aerial monitoring was conducted August 9-10, 2010 in good to fair sighting conditions, for an ASW exercise in the VACAPES OPAREA. The second survey was conducted December 3-5, 2010 in poor sighting conditions in the JAX OPAREA. During the August 2010

survey, there were a total of seven sightings recorded: one group of bottlenose dolphins; two groups of short-finned pilot whales; one group of sperm whales; two groups of pantropical spotted dolphins; and one group of unidentified dolphins. During the December 2010 survey, there were two sightings of cetaceans (unidentified species).

#### Marine Mammal Observations and Lookout Effectiveness Study

During the reporting period, coordination of Navy marine mammal observers (MMOs) for ASW exercise was not possible because of logistic constraints and training exercise schedules. The remainder of this section will focus on the progress made to date on the Navy Lookout Effectiveness study.

To date, the Navy has successfully completed four Lookout Effectiveness data collection trials. The primary functions of these efforts were to test and refine lookout observation methodology. Of the four studies, one was completed in Hawaii, one was completed in Southern California, and two were completed off the coast of Jacksonville, FL. Each study had four trained biologists acting as MMOs, observing from sunrise to sunset each day while underway, to assess the effectiveness of the Navy lookout team and to obtain data to characterize the possible exposure of marine species to MFAS.

On a parallel track with the field protocol development process, methods are being developed for using the data generated by these experiments to estimate the probability of animals entering the harassment zone undetected. An analysis method to allow for intermittent availability is also being developed because many marine mammal species remain at (or close to) the surface for significant periods between dives, and are “intermittently available” for detection. As a proof of concept, both the instantaneous and intermittent availability models to data

collection will be applied and the Navy will provide results in next year's annual monitoring report.

In conclusion, the Navy's implementation of the monitoring plan accomplished several goals, which contribute to a larger body of data intended to better characterize the abundance, distribution, life history, and behaviors of the species in the AFAST study area. In general, the monitoring conducted in 2010-2011 satisfied the objectives of the monitoring plan and specifically contributed to the following: (1) a greater knowledge and understanding of the density and distribution of species within the AFAST study area; (2) the vocalizations of different species, which advances the development of automated classification software; (3) the movement patterns of individual (both vertically in the water column as well as horizontally for the duration of a DTAG deployment); and (4) observable behavioral patterns of marine mammals, before, during, and after exposure to Navy training activities.

Except as described below in the Adaptive Management section, NMFS concludes that the results of these monitoring efforts when taken together with the findings presented in the 2011 exercise report (see Annual Exercise Report section) do not warrant making changes to the current monitoring/mitigation requirements identified in the LOA. While the data collected by the Navy through monitoring and reporting builds upon the existing body of information in a valuable way, none of the new data contradict, or amend, the assumptions that underlie the findings in the 2009 rule in a manner that would suggest changing the current mitigation or monitoring.

#### Adaptive Management

In general, adaptive management allows NMFS to consider new information from different sources to determine (with input from the Navy regarding practicability) if monitoring

efforts should be modified if new information suggests that such modifications are appropriate. All of the 5-year rules and LOAs issued to the Navy include an adaptive management component, which includes an annual meeting between NMFS and the Navy. NMFS and the Navy conducted an adaptive management meeting in October, 2011, which representatives from the Marine Mammal Commission participated in, wherein we reviewed the Navy monitoring results through August 1, 2011, discussed other Navy research and development efforts, and discussed other new information that could potentially inform decisions regarding Navy mitigation and monitoring. Based on the implementation of the 2011 monitoring, the Navy proposed some minor modifications to their monitoring plan for 2012, which NMFS agreed were appropriate. Additional details regarding these minor modifications are provided in Section 13 of the Navy's 2011 LOA Application, which may be viewed at:

<http://www.nmfs.noaa.gov/pr/permits/incidental.htm>.

#### Integrated Comprehensive Monitoring Report

The 2010 LOA required that the Navy update the ICMP Plan to reflect development in three areas, specifically: (1) identifying more specific monitoring sub-goals under the major goals that have been identified; (2) characterizing Navy Range Complexes and study areas within the context of the prioritization guidelines described in the ICMP Plan; and (3) continuing to develop data management, organization and access procedures. The Navy has updated the ICMP Plan as required. Because the ICMP is an evolving Program, we posted the ICMP on NMFS website: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm> and specifically requested input when the 2011 LOA notice published (76 FR 4637, January 26, 2011), which the Navy and NMFS have considered and applied as appropriate.

#### 2011 Monitoring Meeting

The regulations that established the framework for authorizing the taking of marine mammals incidental to Navy training activities required the Navy, with guidance and support from NMFS, to convene a Monitoring Workshop in 2011 (50 CFR 216.245(k)). The Marine Mammal Monitoring Workshop, which included scientists, representatives from non-governmental organization, and Marine Mammal Commission staff, took place in June 2011. Pursuant to the regulations, this workshop presented a consolidated overview of monitoring activities conducted in 2009 and 2010, as well as the outcomes of selected monitoring-related research. In 2010, the Navy convened a Scientific Advisory Group (SAG), comprised of experts in the fields of marine mammals and underwater acoustics, to review the Navy's current monitoring plans and make recommendations. The results of the SAG's review were also presented at the meeting. Participants engaged in open discussion of the lessons learned, and discussed how to improve the Navy's monitoring plan moving forward.

#### NOAA Workshops

In a January 19, 2010, letter to the Council on Environmental Quality, NOAA identified the need for two interrelated workshops on marine mammals and sound in the ocean. To address this commitment, NOAA is convening two parallel, focused, relatively small, and product-driven working groups. One will identify and map cetacean "hot spots", defined as areas of known, or reasonably predictable, biological importance (i.e., for reproduction, feeding, migration) and/or high densities. The second working group will be directed toward developing a comprehensive data collection and analysis plan for describing and predicting underwater sound fields in different areas. The outcomes of these working groups will be integrated and analyzed in a broader symposium to include a larger audience of scientists, industries, federal agencies, conservation managers, and environmental non-governmental organizations (NGOs). The final

products and analyses will provide a more robust, comprehensive, and context-specific biological and acoustic basis by which to inform subsequent management decisions regarding human-generated noise in our oceans. The steering committee has been convened and met for the first time in October, 2010. The working group efforts should take about a year to complete, and both working groups met twice in 2011 to plan and discuss the final products. The final symposium is planned to be held in late spring or early summer in Silver Spring, Maryland, in 2012. The results of these working groups will be analyzed by NMFS in an adaptive management context, as related to the AFAST final rule (74 FR 4844, January 27, 2009), and mitigation or monitoring measures may be modified, as appropriate.

#### Authorization

The Navy complied with the requirements of the 2011 LOA. Based on our review of the record, NMFS has determined that the marine mammal take resulting from the 2011 military readiness training and research activities falls within the levels previously anticipated, analyzed, and authorized. Further, the level of taking authorized in 2012 and 2013 for the Navy's AFAST activities is consistent with our previous findings made for the total taking allowed under the AFAST regulations. Finally, the record supports NMFS' conclusion that the total number of marine mammals taken by the 2012 and 2013 AFAST activities will have no more than a negligible impact on the affected species or stock of marine mammals and will not have an unmitigable adverse impact on the availability of these species or stocks for taking for

subsistence uses. Accordingly, NMFS has issued a two-year LOA for Navy training exercises conducted in the AFAST Study Area from January 22, 2012, through January 22, 2014.

Dated: February 1, 2012.

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